

KANSAS  
STATE NORMAL SCHOOL  
EMPORIA

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THE COST OF INSTRUCTION IN KANSAS  
HIGH SCHOOLS

BY WALTER S. MONROE, PH. D.,  
Professor of School Administration and Director of the Bureau  
of Educational Measurements and Standards,  
Kansas State Normal School.

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NUMBER 2  
STUDIES BY THE BUREAU OF EDUCATIONAL  
MEASUREMENTS AND STANDARDS



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## Cost of Instruction in Kansas High Schools.\*

INSTRUCTION in school subjects is a commodity which communities purchase by employing a superintendent and teachers. This commodity is purchased in the open market with free competition. In return for the monthly salary, the teacher instructs the students assigned to her. The amount of the commodity (instruction) which the community receives depends upon the number of students which the teacher instructs. Other things being equal, the teacher who instructs 50 students is giving to the community only half of the instruction which another teacher gives who instructs 100 students. If the two teachers receive the same salary, the community which employs the first teacher is paying twice as much for a given unit of instruction as the community which employs the second teacher.

### Purpose and Method.

The purpose of this investigation was to determine what the cities of Kansas are paying for a unit of instruction in their high schools and what are the important factors in determining the cost. In October, 1914, a questionnaire was mailed to all high schools in Kansas which were listed in the Educational Directory of the state superintendent of public instruction as offering a four-year course. In this way the following information was secured from each high-school teacher in 54 first- and second-class cities and 149 third-class cities:

City \_\_\_\_\_ Name of teacher \_\_\_\_\_ Salary per month \_\_\_\_\_  
CLASSES TAUGHT.

Periods.....	1	2	3	4	5	6	7	8
Subject.....								
Number of students in class.....								
Length of period.....								

The teachers were asked to include all laboratory periods, and, if a class did not meet daily, to indicate the days on which it did meet. Superintendents and principals who taught high-school classes were asked to give their salary per month in full and to furnish the same information as the other high-school teachers.

\* The author is indebted to the superintendents and teachers of the state for furnishing the data on which this report is made. He is especially indebted to Mr. F. M. Thompson, now Superintendent of Schools at Horton, Kan., for assisting in making the tabulations.

### The Unit of Instruction.

One student attending class for one period\* was taken as the unit of instruction. Thus, if there are 17 students in a history class the teacher is giving to the community 17 units of instruction every time the class meets, *i. e.*, she instructs 17 students for one period each time the class meets. If the class meets five times per week the community receives five times 17, or 85, units of instruction per week, and four times this amount, or 340 units of instruction, each month.

A double period, as in the case of laboratory work, domestic science or manual training, was counted as two periods. The reason for this was that *two* periods of the teacher's time are taken, and she has worked with the students for *two* periods. It may be argued that laboratory work requires less preparation on the part of the teacher. In so far as this is true, it is largely compensated by assigning more periods of work to the teachers of laboratory subjects. For the purpose of comparing the cost of instruction in a given subject, such as domestic science, in the several cities, this gives a uniform basis. To compare the cost of instruction in domestic science with that of history it is only necessary to remember that frequently, but not always, a student is given more than five units of instruction per week in domestic science.

Such activities as coaching athletics, keeping study hall, conference hours, etc., were not considered unless the program of a teacher showed clearly that these activities were considered a part of her work when classes were assigned, and as a consequence she was given fewer teaching periods. It was considered that a superintendent or principal would teach six periods per day if they gave no time to the administration and supervision of the school.† Thus, if a superintendent or principal taught two periods per day he was considered as giving two-sixths of his time to teaching, and two-sixths of his monthly salary was apportioned to the subjects taught. The monthly salary was taken in all cases, even where the superintendent was paid for eleven or twelve months.

No account was taken of the cost of classroom supervision or administration, since it was our purpose to limit this study to the cost of instruction as determined by the salary paid to the teacher. The cost of classroom supervision, administration, janitor service, heating, etc., all enter into the cost of educating students, and these items might well be made the subject of similar investigations.

### Tabulating the Information for a City.

The information given on the reports from the teachers from a city was tabulated for each subject as indicated in the accompanying form. The work of the school was classified under these subjects: English, mathematics, history, science (not including agriculture), agriculture, modern languages, Latin, household arts, manual training, commerce.

\*No distinction was made between 40- and 45-minute class periods. When a period was less than 40 minutes or more than 45 minutes it was reduced to the basis of 45 minutes.

† In a few cities a majority of the teachers taught seven periods. In these cities it was assumed that the superintendent and principal would teach seven periods.



and normal training. Music and a miscellaneous class of subjects which included activities such as physical training, athletics, spelling, etc., are omitted from this report, since they appear to be taught under widely differing conditions. The following form shows the tabulation for English and mathematics:

ENGLISH.			MATHEMATICS.		
Number of students.	Fraction of one teacher's time.	Salary.	Number of students.	Fraction of teacher's time.	Salary.
19			26		
18	$\frac{2}{3}$	\$66.67	25	$\frac{2}{3}$	\$30.00
32			24		
18			16		
32	$\frac{2}{3}$	15.00	27	$\frac{2}{3}$	41.40
27					
Total, 146	1	\$81.67	118	$\frac{2}{3}$	\$71.40

From the information on the city tabulation sheet the following items were calculated for each subject: Average size of classes; total number of teaching periods given to each subject; average salary per teacher; total number of students instructed by one teacher; and the cost per student recitation.

### The Cost of a Unit of Instruction.

In Tables XXI and XXII we give for each city included in this study the cost of instruction per student recitation for each of the subjects taught. Even a cursory examination of the facts reveals that some cities are paying a very much higher price for instruction than are other cities. For example, take the third-class cities of Alden, Alma, and Altoona. For a unit of instruction in mathematics Alden pays 9.43 cents, Alma 4.60 cents, and Altoona 3.59 cents. It will not do to assume that the quality of the instruction in Alden is 100 per cent superior to that given in Alma or that the quality of the instruction in Altoona is materially inferior to instruction in Alma. Probably the quality of the instruction in the three cities is approximately equal. In fact, when we refer to the list of "High Schools Classified and Accredited by the State Institutions of Kansas," January, 1914, we find that each of these high schools is fully accredited. Thus we are justified in concluding that the city of Alden is paying twice as much as Alma for approximately the same commodity—instruction in mathematics—and the city of Altoona is able to secure this commodity at a discount of 20 per cent over Alma. When the boys and girls from these three cities graduate from their respective high schools the state institutions of Kansas receive them on exactly the same basis.

If we examine further Tables XXI and XXII we find still greater variation in the price paid for a unit of instruction by the different cities. In Tables I and II we present a summarized statement of these facts. Table I gives the distribution of the first- and second-class cities according to the number of cents paid for a unit of instruction in the several subjects. Table II gives the same information for third-class

cities. The conspicuous characteristic of these tables is the great differences in the price paid per unit of instruction. For example, Table I tells us that for a unit of instruction in Latin one city pays two cents, ten cities pay three cents, fourteen cities pay four cents, fourteen other cities pay five cents, six cities pay six cents, three cities pay seven cents, four cities pay nine cents, one city pays eleven cents, and one other city pays twenty cents. Latin has occupied a place in the curriculum for centuries, and in that time economical methods of class organization and instruction have been worked out. Hence we find that in the case of the newer subjects, such as agriculture and normal training, the variation in the cost of instruction is much greater. In Table II, which presents the facts for third-class cities, the differences in the cost of a unit of instruction are still greater.

These facts raise the questions, Upon what factors does the cost of instruction depend? and, Why are there so great differences in the price paid for instruction by the cities of one state?

TABLE I. Distribution of first- and second-class cities according to the cost per student recitation.

COST PER STUDENT RECITATION, IN CENTS.	English.....	Mathematics.....	History.....	Science.....	Agriculture.....	Modern languages.....	Latin.....	Household arts.....	Manual training.....	Commercial subjects.....	Normal training.....	Average.....
Above 27.....					1							
27.....					1							
26.....												
25.....												
24.....					1							
23.....					1							
22.....					1							
21.....												
20.....							1					
19.....											1	
18.....											1	
17.....												
16.....						1						
15.....										1	2	
14.....					1							
13.....												
12.....					1	1					5	
11.....							1		1		1	
10.....					2					1	4	
9.....				1		1	4	1	1		2	
8.....	1	1			2	2		1	3		4	
7.....				3	1	1	3	2	4	1	5	1
6.....			2	4	4	4	6	2	6	3	6	2
5.....	2	5	7	5	5	12	14	9	7	3	7	4
4.....	9	13	11	17	5	10	14	7	9	3	5	19
3.....	26	21	21	17	10	13	10	18	4	14	3	26
2.....	16	14	13	7	7	3	1	10	4	6	1	2
1.....					1					3		
Total.....	54	54	54	54	42	48	54	50	40	35	47	54
Median cost.....	3.4	3.6	3.7	4.2	4.6	4.8	5.2	3.8	5.4	3.6	7.4	3.9

TABLE II. Distribution of third-class cities according to cost per student recitation.

COST PER STUDENT RECITATION, IN CENTS.	English	Mathematics	History	Science	Agriculture	Modern languages	Latin	Household arts	Manual training	Commercial subjects	Normal training	Average
Above 30						2				2	1	
30												
29												
28					1							
27	1										2	
26				1								
25					1	1					1	
24												
23											1	
22												
21												
20		1					3			1	2	
19			1			1				1	4	
18										1	3	
17			1	2		2	2					1
16							2			1	3	
15		2	1	1		1	3			2	1	
14		1	2	2		3				1	4	2
13		1	1	2		3	2	1	1	2	2	
12			1	2			4			1	5	
11	1	3	2	6	1	8	4	1	1	3	7	
10	1	8	4	3	3	1	4		3	1	7	5
9	5	7	8	9	5	5	5	1	2	7	7	7
8	3	6	8	9	5	5	10	3	4	6	10	4
7	6	2	9	15	10	6	12	4		7	6	11
6	9	15	12	21	8	6	9	9	3	6	6	17
5	23	21	22	23	7	12	19	10	5	5	7	38
4	26	29	30	23	11	18	35	13	3	3	8	44
3	46	30	29	21	14	11	18	10	2	8	3	20
2	26	20	13	7	7	2	5	2		5		
1	1	1	1				1	1		1		
Total	149	149	145	147	74	84	142	56	23	58	90	143
Median cost	4.1	4.8	5.0	6.0	5.7	5.9	5.6	5.2	6.7	7.1	9.7	5.9

### The Factors Determining the Cost of Instruction.

The immediate factors which determine the cost of instruction are evidently the salary paid to the teacher and the number of students which she instructs. If she instructs 40 students a day she gives to the community 200 units of instruction a week and 800 units each school month. If, however, she instructs five classes of 20 students each, or 100 students a day, she gives to the community 500 units of instruction a week and 2000 units each school month. Since the cost of a unit of instruction is found by dividing the monthly salary by the number of units of instruction, the cost of a unit decreases when the number of units—or what amounts to the same thing, the number of students instructed—is increased. On the other hand, if the number of students instructed by one teacher remains the same, the cost of a unit of instruction is increased when the salary is increased and decreased when it is decreased.

In order to determine which of these two factors is the more important, we have tabulated the cost of a student recitation and the salary paid the teacher as shown in Table III, which is for English in cities of the third class. This table shows that in one city the cost of a unit of instruction in English is one cent,\* and the salary of the teacher in this

\* One cent includes from 1.00 cent to 1.99 cents, two cents from 2.00 to 2.99, etc. The same plan is followed in the tabulation of the other items.

TABLE III. Showing relation between cost per student recitation in English and monthly salary per teacher in 149 third-class cities.

COST PER STUDENT RECITATION, IN CENTS.		Salary per teacher per subject.																	Totals		
		50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130		135	140
1							1	4	1	1			1								1
2			2	5	7	5	9	11	3	1		1									26
3			3	8	10	9	8	5	3	1											46
4							1	3	5					1		1			1		26
5		1	3	1	6	6	2	2	2	1						2					23
6					1	1	4	1	1									1			9
7					2	2	1	1													6
8	1						2	2													3
9								1	1												5
10									1												1
11								1													1
12									1												1
13																					
14																					
15																					
16																					
17																					
18																					
19																					
20																					
Above 20								1													1
Totals	1	1	8	20	31	36	30	10	3		2	1	1	1		3		1		1	149



city is \$75. There are 26 cities in which the cost of a unit of instruction is two cents; in two of these cities the teacher's monthly salary is \$60, in five cities it is \$65, in seven cities it is \$70, in five cities it is \$75, in four cities it is \$80, in the three other cities the salaries are \$85, \$90, and \$105, respectively. The remainder of the table is read in the same way.

It is clearly evident that the cities which pay the lowest salaries are not getting the cheapest instruction, and that those cities which are paying the highest salaries are not the ones in which the instruction is most expensive. The city in which the instruction is cheapest, *i. e.*, one cent per unit, pays a salary of \$75 per month, while the city which pays the lowest salary, *i. e.*, \$50 per month, is paying eight cents for one unit of instruction. If we consider those cities which are paying three cents for a unit of instruction, the salaries range from \$60 to \$100; or if we take those cities which are paying \$75 per month, the cost of a unit of instruction ranges from one cent to above twenty cents. The conclusion is that there is very little relation between the salary paid to the teacher of English in these cities and the actual cost per unit of instruction. Hence the salary paid to a teacher is not a very influential factor in determining the price which the community pays for the instruction in English.

In Table IV the cost per unit of instruction has been tabulated with the number of students instructed by one teacher. In this table it is to be noted that the figures of the table form a rough diagonal from the upper right-hand corner to the lower left-hand corner. This means that, in a general way, the number of students instructed by one teacher increases as the cost of a unit of instruction decreases.

Similar tabulations were made for each subject and for the cities of the first and second class, but space does not permit their reproduction here. We have, however, computed the coefficient of correlation for each tabulation, and these coefficients are given in Tables V and VI. If all of the figures of the tabulation in Table IV formed a perfect diagonal from the upper right-hand corner to the lower left-hand corner, the coefficient of correlation would be  $-1.000$ .<sup>\*</sup> The coefficient of correlation for Table IV is  $-.647$ . When the figures of the table are scattered over the table at random, the coefficient of correlation is zero or approximately zero. The coefficient of correlation for Table III is  $.072$ .

Table VI, which gives the coefficients of correlation for each of the subjects, shows that the condition which was found to exist in the case of English in cities of the third class is also true in approximately the same degree for the other subjects. Table V shows that this relation exists in cities of the first and second class as well. The conclusion may be drawn that the actual monthly salary paid to teachers is no reliable index of the price which the community is paying for instruction. It is equally true that the number of students instructed by one teacher is an *important* factor in determining the price which the community is paying

<sup>\*</sup> This statement applies only to tables formed in the same manner as Table IV. In this table the average size of class increases from left to right and the cost from top to bottom. There is no reason why the order of one of these might not have been reversed, which would reverse the direction of the diagonal. A positive coefficient of correlation designates a relation between two quantities such that when one increases the other increases. A negative coefficient of correlation indicates the opposite relation between two quantities.

TABLE IV. Showing relation between cost per student recitation in English and the number instructed by one teacher in 149 third-class cities.

COST PER STUDENT RECITATION, IN CENTS.	Number of students instructed by one teacher.																			Totals....
	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	
1.....																				1
2.....																		1		26
3.....																		6	1	46
4.....																		1		26
5.....																				23
6.....																				9
7.....																				6
8.....																				3
9.....																				3
10.....																				1
11.....																				1
12.....																				1
Above 12.....																				1
Totals.....	1	1	1	5	3	5	7	3	5	7	5	6	12	6	10	7	6	13	6	8



for instruction. A city in which the high school is so organized that a teacher instructs 80 to 100 students each day may pay relatively high salaries and yet secure instruction at a relatively low price.

TABLE V. Showing the coefficients of correlation of the cost per student recitation with the average size of classes, with the number of students instructed by one teacher, and with the monthly salary of the teacher.

*Cities of the first and second class.*

SUBJECT.	With average size of classes.	With the number of students instructed by one teacher.	With monthly salary of the teacher.
English.....	— .608	— .497	.248
Mathematics.....	— .625	— .555	.186
History.....	— .563	— .644	.257
Science.....	— .790	— .741	.402
Agriculture.....	— .631	— .668	.396
Modern languages.....	— .722	— .863	.176
Latin.....	— .720	— .748	.100
Household arts.....	— .758	— .620	— .072
Manual training.....	— .705	— .414	.107
Commerce.....	— .751	— .749	— .068
Normal training.....	— .700	— .705	.026

TABLE VI. Showing the coefficients of correlation per student recitation with the average size of classes, with the number of students instructed by one teacher, and with the monthly salary of the teacher.

*Cities of the third class.*

SUBJECT.	With average size of classes.	With the number of students instructed by one teacher.	With monthly salary of the teacher.
English.....	— .647	— .672	.072
Mathematics.....	— .758	— .805	.288
History.....	— .742	— .763	.243
Science.....	— .713	— .761	.257
Agriculture.....	— .579	— .615	.102
Modern languages.....	— .638	— .681	.239
Latin.....	— .701	— .785	.269
Household arts.....	— .609	— .535	.096
Manual training.....	— .727	— .565	.338
Commerce.....	— .690	— .690	.360
Normal training.....	— .679	— .665	.099

[illegible]

The number of students which may be instructed by a teacher is limited by the size of the school, for in a school with a very small total enrollment the number of students in a class can not be large. To learn how closely the number of students instructed by a teacher depends upon the size of the school, these two items were tabulated together for 144 third-class cities. See Table VII. This table shows that under the present plan of organization the number of students which one teacher may instruct is limited by the enrollment of the high school, but it also shows that in the case of English in schools having the same total enrollment there is a wide range in the number of students instructed by one teacher. For example, take the 15 schools which have an enrollment of 40. The number of students instructed by one teacher ranges from 60 to 125. Since English is a subject required of all students, we must conclude that some of these schools are better organized than others. A teacher can instruct from 100 to 125 students in most subjects, and when a teacher is assigned fewer than 75 students in such a subject as English, she is not rendering the service of which she is capable. When this happens because of poor organization and management, this community is being deprived of its rights.

Tabulations similar to that given in Table VII were made for the other subjects in the case of third-class cities and the coefficients of correlation are given in Table VIII. This table shows that, as in the case of English, there is a close agreement between the number of students instructed by one teacher and the enrollment in the case of mathematics, history, science, and normal training. These subjects, together with Latin, are the staple or required subjects of the curriculum of the small high school in Kansas. (See Table XVIII for the per cent of high schools in which these subjects are taught.) The coefficients for the other subjects, agriculture, modern languages, household arts, manual training and commerce are so small that they indicate little agreement between the number of students instructed by one teacher and the enrollment. This is probably due to these subjects being so-called "electives," and classes are organized upon sufficient demand.

TABLE VIII. Students instructed by one teacher correlated with total high-school enrollment in third-class cities.

English.....	.709	Latin.....	.372
Mathematics.....	.778	Household arts.....	.258
History.....	.499	Manual training.....	.169
Science.....	.508	Commercial subjects.....	.516
Agriculture.....	.263	Normal training.....	.597
Modern languages.....	.228		

That the number of students which a teacher instructs is practically determined by the size of the classes is shown by comparing Table IV with Table VIIa and by comparing the first and second columns of coefficients of Tables V and VI. Approximately the same degree of correlation exists between the cost of a student recitation and the average size of classes



as between the cost of a student recitation and the number of students instructed by one teacher. It appears then that the ability of the superintendent to organize his school so that the class will be of moderate size is a fundamental factor in determining the price which a community pays for instruction. For, within rather wide limits, the number of students which a teacher will instruct depends upon the organization of the school by the superintendent, and the number of students instructed by a teacher largely determines the price which the community pays for instruction.

The dependence of the cost of a student recitation upon the total enrollment of the high school is shown in another form in Tables XIXa, XIXb, XXa, XXb and XXc, inclusive. In these tables the cities have been grouped according to the enrollment. The left half of Table XIXa gives the distribution according to the cost per student recitation of those cities of the first and second class which have an enrollment below 100; the right half of Table XIXa gives the same information for those cities which have an enrollment between 100 and 150; etc. In the case of third-class cities there is a great lack of uniformity in the cost of a unit of instruction in cities having a high-school enrollment below 60, but in general it decreases slightly as the size of the school increases.

Can the small community be relieved from the high cost of instruction? The length of class periods and the number of meetings per week are generally the same for all classes, regardless of the size of classes. The college-entrance requirements are uniform for all sizes of classes. Some small communities are able to secure instruction at a more reasonable rate than others by reason of having their school better organized and managed; that is, by employing a superintendent who is efficient in these respects. But still more relief would come from an organization of the high school which would permit shorter periods or fewer periods per week for small classes. It is reasonable that the members of a class of five to ten students will receive as much instruction in three periods as a class of twenty-five will receive in five periods.

### Standards.

If all of the third-class cities were arranged in the order of the cost of a student recitation in English, the cost of a student recitation in the city which is the middle one of the group is called the median cost. Just half of the cities pay more and half of them pay less. The median cost of a unit of instruction has been computed for each subject for each of the two groups of cities. See Tables I and II.

The median cost represents the consensus of present practice, but such a standard would be too rigorous for application to cities in which the high-school enrollment varies widely. More appropriate standards would be the medians when the cities are grouped according to enrollment, as in Tables XIXa, XIXb, XXa, XXb and XXc. These medians are grouped by subjects in Tables IX and X. For some of the subjects—for example, manual training—the number of cases is so small and so widely distributed that the median is not very reliable. In any case, medians should not be applied too rigorously as standards, because of the power-



ful influence upon the cost of a unit of instruction of the number of students which the teacher instructs. Furthermore, as teachers' salaries increase and as high schools become better organized these medians will change.

The significance of differences in the cost of a unit of instruction becomes more apparent when we consider the cost of 1000 units of instruction. At four cents per unit, 1000 units cost \$40. A school with an enrollment of 50 consumes 200 units of instruction daily and 1000 units each week. (This is assuming that each student carries four subjects.) A difference of one cent per unit would make a difference of \$10 per week in such a school. When the difference in the cost per unit of instruction is greater than one cent, as is frequently the case, the difference in the cost of 1000 units is proportionately greater.

Since the average size of classes and the number of students instructed by one teacher are such important factors in determining the cost of a unit of instruction, we give in Tables XI, XII, XIII and XIV the distributions and medians for these quantities. Tables XI and XII show that some teachers are overworked and others are not kept busy. Here, again, the medians may be thought of as standards, but must not be applied too rigorously.

TABLE XI. Distribution of first- and second-class cities according to the number of students instructed by one teacher.

NUMBER OF STUDENTS INSTRUCTED BY ONE TEACHER.	English.....	Mathematics.....	History.....	Science.....	Agriculture.....	Modern languages.....	Latin.....	Household arts.....	Manual training.....	Commercial subjects.....	Normal training.....
Above 150.....	4	6	7	4	3	2	1	.....	.....	9	2
150.....	3	5	2	1	.....	1	.....	.....	.....	2	1
145.....	2	.....	3	1	1	1	1	.....	.....	.....	.....
140.....	3	3	6	.....	2	1	1	.....	.....	1	.....
135.....	4	6	2	1	1	.....	.....	.....	.....	.....	.....
130.....	5	2	4	.....	.....	.....	1	.....	.....	1	.....
125.....	5	3	2	1	.....	1	.....	1	1	2	.....
120.....	2	6	7	2	2	2	1	2	3	2	1
115.....	2	3	1	3	5	1	.....	.....	.....	3	3
110.....	6	3	4	6	1	2	3	2	1	1	5
105.....	4	3	3	1	1	4	2	.....	1	1	1
100.....	4	7	2	2	.....	2	4	1	1	.....	1
95.....	3	2	2	5	2	3	6	1	1	2	5
90.....	2	2	4	4	2	4	4	1	.....	1	3
85.....	3	.....	.....	3	.....	3	3	.....	.....	.....	1
80.....	.....	.....	1	6	4	6	4	4	4	2	1
75.....	1	.....	1	4	2	6	4	2	3	.....	.....
70.....	.....	3	1	2	2	2	6	4	3	1	2
65.....	.....	.....	.....	2	2	1	2	4	2	.....	2
60.....	.....	.....	2	3	.....	1	3	3	6	2	2
55.....	.....	.....	.....	1	.....	.....	.....	4	1	.....	.....
50.....	.....	.....	.....	1	3	1	3	4	3	.....	5
45.....	.....	.....	.....	.....	2	2	1	2	3	2	2
40.....	1	.....	.....	1	1	1	.....	5	2	1	3
35.....	.....	.....	.....	.....	2	.....	3	3	3	1	5
30.....	.....	.....	.....	.....	2	.....	.....	5	.....	.....	1
25.....	.....	.....	.....	.....	1	.....	.....	1	2	.....	.....
20.....	.....	.....	.....	.....	.....	1	1	.....	.....	1	1
15.....	.....	.....	.....	.....	.....	.....	1	1	.....	.....	.....
10.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....
Total.....	54	54	54	54	43	48	54	50	40	35	47
Median number of students.....	122	123	124	95	83	90	85	60	65	120	85



TABLE XII. Distribution of third-class cities according to the number of students instructed by one teacher.

NUMBER OF STUDENTS INSTRUCTED BY ONE TEACHER.	English.....	Mathematics.....	History.....	Science.....	Agriculture.....	Modern languages..	Latin.....	Household arts.....	Manual training.....	Commercial subjects.....	Normal training.....
Above 150.....	8	13	8	2	2	2	1	1	.....	2	1
150.....	2	3	3	.....	1	.....	.....	.....	.....	1	.....
145.....	4	3	2	4	.....	.....	1	.....	.....	.....	.....
140.....	5	7	2	1	1	.....	1	.....	.....	2	.....
135.....	8	2	3	.....	.....	.....	1	.....	.....	1	.....
130.....	1	9	4	1	2	1	2	.....	.....	2	.....
125.....	3	3	2	1	.....	.....	2	.....	.....	1	2
120.....	7	2	6	1	1	1	.....	1	.....	.....	1
115.....	3	9	3	2	3	.....	.....	.....	.....	.....	2
110.....	6	11	6	1	.....	1	2	.....	.....	.....	.....
105.....	13	6	9	4	2	4	5	.....	.....	2	1
100.....	6	11	4	2	2	3	11	.....	.....	1	1
95.....	7	5	7	5	4	1	6	.....	1	1	3
90.....	10	5	9	10	1	3	5	.....	.....	1	3
85.....	6	8	5	9	5	5	10	2	1	2	2
80.....	12	13	10	6	4	3	4	1	2	5	3
75.....	6	3	9	12	3	8	7	1	1	3	4
70.....	5	2	8	11	2	7	8	2	1	3	6
65.....	7	3	2	3	6	7	10	2	1	7	6
60.....	5	6	7	12	3	2	12	1	.....	2	3
55.....	3	2	9	7	4	5	8	3	2	.....	1
50.....	7	5	9	14	4	3	6	2	3	3	7
45.....	5	7	3	7	6	6	7	8	3	5	6
40.....	3	3	6	11	5	3	6	8	1	4	11
35.....	5	3	5	5	6	5	8	9	3	2	6
30.....	1	3	2	10	4	4	7	4	2	2	5
25.....	1	2	1	2	1	3	4	5	2	2	4
20.....	.....	.....	1	2	.....	4	8	3	.....	1	9
15.....	.....	.....	.....	.....	2	1	.....	2	.....	2	2
10.....	.....	.....	.....	2	.....	2	.....	1	.....	.....	1
5.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....
Total.....	149	149	145	147	74	84	142	56	23	58	90
Median number of students...	94	102	85	68	67	68	68	43	52	69	51

TABLE XIII. Distribution of first- and second-class cities according to the average size of classes.

AVERAGE SIZE OF CLASSES.	English.....	Mathematics.....	History.....	Science.....	Agriculture.....	Modern languages...	Latin.....	Household arts.....	Manual training.....	Commercial subjects.	Normal training.....
Above 30.....	.....	1	2	1	3	1	.....	1	.....	1	2
30.....	.....	.....	.....	2	3	.....	.....	.....	.....	2	.....
29.....	.....	.....	2	2	.....	.....	.....	.....	.....	.....	.....
28.....	.....	3	1	1	2	.....	.....	.....	.....	.....	.....
27.....	4	2	1	1	2	.....	.....	.....	.....	2	.....
26.....	4	2	2	1	.....	.....	.....	.....	.....	1	.....
25.....	6	2	5	5	2	1	1	.....	.....	.....	1
24.....	3	4	3	1	3	1	.....	1	1	.....	1
23.....	4	5	3	3	3	2	2	1	.....	4	2
22.....	4	7	6	2	1	1	.....	.....	.....	1	1
21.....	8	4	4	2	3	2	1	1	1	1	.....
20.....	4	8	9	4	.....	3	2	4	2	3	1
19.....	4	4	2	3	1	1	3	4	1	2	1
18.....	5	3	1	7	3	5	4	1	.....	2	2
17.....	2	2	4	7	4	2	3	6	3	2	3
16.....	2	1	1	3	2	2	5	5	6	1	5
15.....	1	2	5	2	1	6	8	2	3	1	3
14.....	2	1	.....	1	1	3	5	3	2	2	2
13.....	.....	.....	1	2	4	7	4	3	2	1	.....
12.....	1	3	2	.....	1	6	5	6	2	2	2
11.....	.....	.....	.....	2	.....	.....	2	4	4	2	1
10.....	.....	.....	.....	1	1	1	1	6	5	.....	2
9.....	.....	.....	.....	.....	.....	1	2	1	5	2	2
8.....	.....	.....	.....	.....	.....	1	3	.....	3	1	5
7.....	.....	.....	.....	.....	2	1	2	.....	.....	.....	5
6.....	.....	.....	.....	.....	1	.....	.....	1	.....	1	4
5.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
4.....	.....	.....	.....	.....	1	1	1	.....	.....	.....	.....
3.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1
2.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total.....	54	54	54	53	43	48	54	51	40	35	47
Median size of classes.....	21.8	21.8	21.5	19.7	18.7	15.7	15.3	15.5	13.5	19.0	14.5

TABLE XIV. Distribution of third-class cities according to the average size of classes.

AVERAGE SIZE OF CLASSES.	English	Mathematics	History	Science	Agriculture	Modern languages	Latin	Household arts	Manual training	Commercial subjects	Normal training
Above 30.....	2	2	1	1	2		1				
30.....		2		1							1
29.....		1	1	2	1	1		1		1	
28.....	1	2	2	1	1						
27.....			1	1	1						
26.....	3		3	1	2					2	
25.....	2	6	3	2				1		1	
24.....	9	8	3	2							
23.....	2	5	4	2	2					2	1
22.....	8	3	4		2	1	2			1	1
21.....	6	6	3	2			2			2	
20.....	11	5	9	9	4	1	3			1	2
19.....	3	8	7	4	3					1	
18.....	5	7	4	9	3	1	5			1	
17.....	10	13	6	2	4	6	13	2	1		2
16.....	13	10	11	11	3	2	4			1	4
15.....	10	6	8	11	3	6	1	3		1	3
14.....	8	13	10	7	7	7	7	4	2	4	3
13.....	9	6	8	8	3	8	14	7	2	5	5
12.....	6	4	11	6	3	7	12	7	4	5	2
11.....	10	7	10	13	5	7	6	2	1	8	6
10.....	5	4	8	14	8	11	11	9	5	4	6
9.....	7	7	5	9	6	5	12	4	2	2	5
8.....	5	3	12	11	5	5	15	6		3	10
7.....	4	8	4	9	3	7	5	4	2	6	10
6.....	8	5	5	3		4	6	3		1	8
5.....	1	3	3	3	1	5	12		1	1	5
4.....	1	2	2	5		5	6	1	1	4	7
3.....		1	1		2	2	4			3	8
2.....						2					1
1.....											
Total.....	149	149	145	147	74	84	142	56	23	58	90
Median size of classes.....	16.1	16.5	14.3	13.0	14.1	11.7	11.0	11.5	10.8	11.6	8.6

TABLE IX. Showing the median cost per student recitation in first- and second-class cities grouped according to enrollment.

SUBJECT.	Enrollment.							
	Below 100.		100-149.		150-199.		200 and above.	
	No. of cities.	Median cost.	No. of cities.	Median cost.	No. of cities.	Median cost.	No. of cities.	Median cost.
English.....	7	4.0	11	3.4	14	3.0	22	3.1
Mathematics.....	7	5.3	11	3.1	14	3.0	22	3.4
History.....	7	5.5	11	4.1	14	3.3	22	3.1
Science.....	7	7.5	11	4.3	14	3.3	22	3.3
Agriculture.....	4	8.0	10	6.0	12	3.5	16	4.0
Modern languages.....	6	7.0	9	5.0	13	4.2	20	4.2
Latin.....	7	9.3	11	4.7	14	5.0	22	5.0
Household arts.....	6	6.0	10	5.4	13	3.7	21	3.2
Manual training.....	3	4.0	8	6.0	11	5.8	17	5.5
Commerce.....	2	7.0	6	4.0	8	3.3	19	3.2
Normal training.....	3	10.0	11	8.5	14	6.5	19	6.3
Average.....	7	6.0	10	4.3	15	3.7	22	3.8

TABLE X. Showing the median cost per student recitation in third-class cities, grouped according to enrollment.

SUBJECT.	Enrollment.									
	Below 40.		40-59.		60-79.		80-99.		100 and above.	
	No. of cities.	Median cost.	No. of cities.	Median cost.	No. of cities.	Median cost.	No. of cities.	Median cost.	No. of cities.	Median cost.
English.....	43	6.3	37	4.4	31	3.8	13	3.2	25	3.1
Mathematics.....	43	9.1	37	5.3	31	4.0	13	4.2	25	3.0
History.....	39	7.6	37	5.7	31	4.4	13	4.6	25	3.8
Science.....	41	7.8	37	6.7	31	5.4	13	5.0	25	4.3
Agriculture.....	14	6.5	12	9.3	16	5.6	8	6.0	24	4.6
Modern languages.....	16	11.3	24	5.6	16	5.3	10	4.0	18	6.0
Latin.....	38	8.4	36	5.3	31	5.3	13	5.0	22	4.4
Household arts.....	5	5.5	6	6.3	11	5.5	9	5.3	24	4.3
Manual training.....	4	6.0	4	10.0	1	11.5	3	4.5	11	6.0
Commerce.....	13	11.6	16	8.3	8	7.5	6	5.0	16	4.5
Normal training.....	18	13.0	20	12.0	16	8.8	9	8.5	24	9.0
Average.....	43	7.6	37	5.6	31	4.7	13	4.8	25	4.2

### By-products of the Investigation.

In Tables XV and XVI distributions of the cities according to the salary per teacher are given. As in the case of the other distribution tables, variation is the dominant characteristic. The relatively high salaries are due to the superintendents and high-school principals, but aside from these there remain wide differences in salaries. The medians represent the consensus of present practice.

It is interesting to note that teachers of English receive less than teachers of modern languages or Latin. There is no reason why a teacher of English should not command a salary equal with teachers of the other subjects mentioned. The difference is probably due to a greater supply of English teachers than teachers of the other subjects. Teachers are "purchased" in the open market and the salaries paid are governed by the law of supply and demand. These tables indicate in what fields the greatest demand exists.

In Tables XVII and XVIII the distributions of these cities according to the per cent of teaching time given to each subject are given. Take, for example, English in the first- and second-class cities. In one city 9 per cent of the total teaching time is given to English, while in another city 26 per cent is given to the subject. The remaining 52 cities range between these two extremes, the median being 15.5 per cent. Some variation can be explained on the basis of differences in local conditions, but these tables furnish striking evidence of the fact that the superintendents and high-school principals of Kansas are far from an agreement as to what the course of study should be.

TABLE XV. Distribution of first- and second-class cities according to teachers' salaries.

SALARY.	English.....	Mathematics.....	History.....	Science.....	Agriculture.....	Modern languages..	Latin.....	Household arts.....	Manual training.....	Commercial subjects.	Normal training.....
\$180.....											
175.....											1
170.....											1
165.....											1
160.....									1		1
155.....					1						1
150.....			1		2		1				1
145.....											
140.....		1			1						2
135.....		1	1								1
130.....				1	2				1		3
125.....			2	4			2		1		6
120.....		3	2	2	3	2	1		1	1	4
115.....		1			1		2				3
110.....		2	2	2	4	4			3	2	2
105.....	1	2	1	2	1	1	3		2		
100.....	1	3	5	6	6	5	2	6	6	7	3
95.....	4	6	5	9	3	2	1	3	2	3	6
90.....	5	6	11	13	7	4	6	5	8	3	5
85.....	7	10	4	6	3	6	9	3	3	3	3
80.....	12	9	9	7	3	9	11	10	7	2	3
75.....	17	7	5	2	4	8	7	9	4	10	1
70.....	6	2	4		1	5	6	11	1	1	1
65.....		1	1			2	2	2		2	
60.....	1		1				1				
55.....											
50.....											
Total.....	54	54	54	54	42	48	54	50	40	35	47
Median salary.....	\$81.25	\$89.00	\$91.35	\$94.62	\$100	\$85.00	\$85.00	\$81.00	\$93.13	\$90.00	\$115

TABLE XVI. Distribution of third-class cities according to teachers' salaries.

SALARY.	English.....	Mathematics.....	History.....	Science.....	Agriculture.....	Modern languages...	Latin.....	Household arts.....	Manual training.....	Commercial subjects.	Normal training.....
\$175.....											1
170.....					1					2	2
165.....		1									
160.....											
155.....		1									
150.....					2						
145.....			1		2		1			1	
140.....	1	1	2	3	2				1		3
135.....		2		1							1
130.....	1	4	2	3		1	1			3	2
125.....		5	1	4	1		2				3
120.....	3	5	6	4	10		2		1	4	3
115.....		5	4	2	1		2			2	5
110.....	1	16	10	10	7	1	2		1	12	8
105.....	1	5	3	7	1						7
100.....	2	16	7	26	11	7	6		5	5	13
95.....		7	13	8	1	3	5			1	9
90.....	3	21	11	16	4	3	6	1	5	3	3
85.....	10	10	18	22	5	3	5	4	2	4	7
80.....	30	17	22	15	6	17	28	14	4	3	10
75.....	36	11	12	15	9	22	32	15	2	8	5
70.....	31	14	16	5	3	18	24	15	1	3	4
65.....	20	6	10	4	6	7	18	3	1	4	2
60.....	8	2	6	2	2	1	6	3			2
55.....	1		1			1	1			2	
50.....	1						1	1			
Total.....	149	149	145	147	74	84	142	56	23	58	90
Median salary.....	\$76.94	\$93.57	\$86.67	\$93.44	\$100+	\$78.41	\$78.28	\$77.00	\$91.25	\$100	\$101.15



TABLE XVII. Distribution of 54 first- and second-class cities upon the basis of per cent of teaching time given to high-school subjects.

PER CENT OF TEACHING TIME.	English.....	Mathematics.....	History.....	Science.....	Agriculture.....	Modern languages,...	Latin.....	Household arts.....	Manual training.....	Commercial subjects.....	Normal training.....
27.....		1									
26.....	1									1	
25.....											
24.....	1										
23.....											
22.....	1										
21.....	1	1								1	
20.....	2	1		4				1		1	
19.....	2					1			1	2	
18.....	4	4	1	1			1	1		1	
17.....	6	4	1	1			1				
16.....	6	2		2				4	2	1	
15.....	6	4	1	1			1	3	4	1	
14.....	4	4	2	3		1	1	1	1	2	
13.....	5	11	3	5				5	3	3	
12.....	7	6	5	3		2	2	7	3	1	
11.....	5	6	8	7		1	4	1		5	1
10.....	2	5	4	3		1	5	3	2	1	1
9.....	1	1	4	5			5	4	5	6	1
8.....		1	6	6		6	7	7	6	1	1
7.....			9	5	1	6	7	3	4	3	4
6.....		1	6	3		10	7	3	4	2	2
5.....		1	2	4	2	6	9	1	3	1	6
4.....			2		7	6	2	2	1		15
3.....				1	17	5	2		1		8
2.....		1			12	2				2	2
1.....					2	1					
0.....					1						
Totals.....	54	54	54	54	42	48	54	49	40	35	47
Per cent of cities giving instruction.....	100	100	100	100	78	88	100	90	74	64	87
Median per cent of time.....	15.5	13.4	9.5	11.0	3.3	6.4	8.0	12.1	9.2	11.4	4.9

TABLE XVIII. Distribution of 149 third-class cities upon the basis of per cent of teaching time given to high-school subjects.

	English.....	Mathematics.....	History.....	Science.....	Agriculture.....	Modern languages...	Latin.....	Household arts.....	Manual training.....	Commercial subjects.	Normal training.....
39.....	1										
38.....											
37.....											
36.....	1										
35.....											
34.....	1	1									
33.....	1			2						1	
32.....											
31.....	1		1							1	
30.....								1			
29.....	1		1	4							
28.....	2		1	5			1	2			
27.....	2		1	3			2	1			
26.....	3	2		1			1				
25.....	2	2		1			3				
24.....	4	4	1	5				1			
23.....	3	2	2	2				1			
22.....	7	5	1	5			4	1			
21.....	6	6	8	7		1	1				
20.....	10	5	6	11			3			2	
19.....	7	8	3	11			5	1		1	1
18.....	17	12	9	5		2	8	4		1	
17.....	13	10	7	9			10		2		
16.....	17	16	13	7		5	15	3	2		
15.....	13	14	12	2		2	10	3	2	2	2
14.....	13	10	11	13		4	9	3	1		2
13.....	7	8	9	12	1	3	5	6	1	3	5
12.....	7	14	13	9	3	5	11	4	2	3	5
11.....	4	12	7	7	2	6	10	3	1	4	9
10.....	5	6	6	6	5	4	6	6		2	7
9.....		5	12	6	8	13	8	10	4	6	14
8.....	2	5	7	8	8	12	6	4	1	6	11
7.....		2	4	2	14	6	8	2	3	6	13
6.....			4	2	12	12	7	2	2	6	11
5.....			1	1	11	5	4		3	6	3
4.....			2		7	2	1		1	2	1
3.....			2	1	2	2				3	3
2.....					1						
1.....											
Totals.....	149	149	144	147	74	84	140	56	23	58	90
Per cent of cities giving instruction.....	100	100	96	98	49	56	93	37	15	38	60
Median per cent of time.....	17.4	15.9	14.4	16.7	7.3	9.2	14.3	12.2	9.5	9.0	9.3





TABLE XXa. Table showing relation of cost per student recitation to size of high school.—Third-class cities.

		Enrollment, 40-59.											
Cost.		Enrollment below 40.											
		Average.....	Normal training.....	Commercial subjects.....	Manual training.....	Household arts.....	Latin.....	Modern languages.....	Agriculture.....	Science.....	History.....	Mathematics.....	English.....
Above 30.....													
30.....	1												
29.....													
28.....	1												
27.....													
26.....	1												
25.....													
24.....	1												
23.....													
22.....													
21.....													
20.....	1												
19.....	2												
18.....	1												
17.....													
16.....	1												
15.....													
14.....	1												
13.....	1												
12.....	2												
11.....	1												
10.....	1												
9.....	5												
8.....	2												
7.....	5												
6.....	3												
5.....	12												
4.....	5												
3.....	1												
2.....	1												
1.....													
Totals.....	43	43	39	41	14	16	38	11.3	8.4	5.5	6.0	11.6	13.0
Median cost.....	6.3	9.1	7.6	7.8	6.5	11.3	8.4	5.5	6.0	11.6	13.0	7.6	11.6





TABLE XXc. Showing relation of cost per student recitation to size of high school.—Third-class cities.

Enrollment, 100 and above.											
City.	English.....	Mathematics.....	History.....	Science.....	Agriculture.....	Modern languages.....	Latin.....	Household arts.....	Manual training.....	Commercial subjects.....	Average.....
Above 30.....											
30.....											
29.....											
28.....											
27.....											
26.....											
25.....											
24.....											
23.....											
22.....											
21.....											
20.....										1	
19.....											
18.....											
17.....						1					
16.....							1			1	
15.....						1	1				
14.....											
13.....										1	
12.....										1	
11.....										2	
10.....						3	1			1	
9.....					1				1		
8.....				1	1	1				5	
7.....			1	1	2	2		1	4	1	
6.....			1	1	3	1		1	1	1	
5.....			2	2	2	1		3	1	3	
4.....		1	3	5	1	3	4	2	3	3	3
3.....	4	4	5	3	6	4	11	8	1	2	10
2.....	9	7	9	9	4	2	3	6	1	3	11
1.....	12	12	4	3	4		1	2		3	
		1						1		1	
Totals.....	25	25	25	25	24	18	22	24	11	16	25
Median cost.....	3.1	3.0	3.8	4.3	4.6	6.0	4.4	4.3	6.0	4.5	4.2

TABLE XXI. The cost per student recitation in cents.—First- and second-class cities.

City.	English.	Mathematics.	History.	Science.	Agriculture.	Modern languages.	Latin.	Household arts.	Manual training.	Commercial subjects.	Normal training.	Average.
Arkansas City.....	3.2	2.5	3.0	2.8	.....	.....	4.1	.....	.....	.....	11.2	3.17
Baxter Springs.....	8.8	8.0	5.4	4.1	.....	12.0	20.0	8.3	.....	.....	.....	7.72
Belleville.....	2.9	4.1	3.9	5.2	5.4	5.1	4.5	5.0	6.4	.....	5.1	4.28
Caney.....	3.2	3.6	3.0	4.8	3.4	4.2	6.2	2.7	2.8	3.2	7.5	3.66
Chanute.....	5.0	4.0	5.1	3.1	3.0	3.4	7.6	.....	.....	.....	5.4	4.19
Cherryvale.....	2.8	2.8	2.6	4.1	3.0	3.0	5.3	5.3	.....	.....	3.5	3.15
Clay Center.....	2.7	3.3	3.4	2.8	3.8	5.7	2.7	3.5	4.6	1.7	4.6	3.10
Coffeyville.....	4.6	4.3	3.8	4.2	6.6	4.8	5.5	2.8	6.9	3.3	5.1	4.45
Concordia.....	4.2	3.0	3.7	6.3	.....	5.4	5.7	4.0	4.5	.....	12.2	4.52
El Dorado.....	3.1	4.0	2.9	3.8	4.5	3.2	7.8	3.5	7.0	3.1	5.8	3.63
Emporia.....	4.4	3.6	4.4	3.8	6.3	5.0	4.9	3.7	4.0	3.7	6.0	4.10
Eureka.....	2.3	4.2	3.1	3.3	3.6	4.4	4.8	5.3	7.2	3.6	6.0	3.74
Fredonia.....	2.9	3.1	2.2	3.4	.....	.....	4.3	3.1	3.6	.....	4.3	3.18
Frontenac.....	4.8	5.2	3.2	6.4	.....	.....	6.8	5.6	2.5	15.0	.....	5.35
Fort Scott.....	3.2	3.2	2.3	2.4	2.8	5.9	5.9	4.4	5.1	1.9	4.2	3.09
Galena.....	3.1	3.5	3.2	3.6	3.6	3.8	4.5	3.4	.....	2.6	9.7	3.41
Garden City.....	3.7	4.6	4.2	4.9	6.4	4.1	9.0	6.1	10.9	4.0	8.0	4.84
Garnett.....	3.1	4.0	4.2	3.7	4.9	8.0	4.9	5.2	6.1	.....	6.6	4.67
Girard.....	3.0	2.4	2.5	3.4	5.3	4.7	3.0	2.4	2.4	.....	3.3	2.85
Goodland.....	2.5	5.2	6.4	7.7	14.0	9.6	11.0	3.3	.....	6.2	10.7	3.90
Great Bend.....	3.1	3.9	3.7	3.3	2.2	4.0	5.0	3.1	3.5	2.0	7.6	3.27
Harper.....	2.1	3.3	4.3	4.1	4.7	5.1	5.0	5.8	.....	.....	7.5	3.78
Hays.....	3.0	5.9	3.3	4.5	.....	5.1	9.9	.....	.....	.....	.....	4.67
Herington.....	3.4	5.5	4.1	4.0	7.7	6.1	4.8	6.6	.....	.....	12.3	4.88
Hiawatha.....	3.8	3.9	2.9	4.8	5.9	6.0	3.3	5.2	11.0	5.9	10.0	4.69
Hoisington.....	4.6	4.8	5.2	9.6	3.8	7.1	9.8	4.1	8.6	.....	19.0	6.01
Holton.....	3.1	3.5	3.6	3.3	5.1	3.8	3.2	2.9	.....	3.5	5.0	3.56
Horton.....	2.7	2.8	4.0	3.3	3.4	4.6	3.1	3.1	5.6	1.9	10.0	3.66
Hutchinson.....	4.8	4.0	4.4	6.0	.....	6.4	5.0	2.9	4.7	3.2	7.4	4.85
Iola.....	3.7	3.6	2.9	5.4	4.0	5.1	4.0	3.5	3.3	.....	.....	3.94
Junction City.....	2.8	3.5	3.1	3.6	5.8	4.1	5.0	3.3	9.5	2.9	12.0	3.89
Larned.....	3.0	4.0	3.6	4.9	.....	3.6	5.9	.....	.....	.....	8.8	4.38
Lawrence.....	4.0	3.2	3.1	4.6	.....	3.7	4.4	2.7	2.3	.....	.....	3.53
Leavenworth.....	4.7	5.1	4.0	5.3	.....	6.4	6.0	3.3	5.3	3.8	5.7	3.88
Lindsborg.....	3.9	4.5	6.4	3.3	8.4	5.4	6.4	7.9	4.6	.....	.....	5.14
Lyons.....	3.2	3.2	5.9	4.5	12.0	.....	3.9	7.1	5.9	6.1	12.0	4.93
Marion.....	2.6	2.9	4.3	4.0	10.2	2.8	3.6	3.1	6.3	7.6	18.0	4.05
Marysville.....	2.5	3.4	2.7	3.4	22.0	.....	4.1	4.3	5.8	3.7	15.0	3.89
Minneapolis.....	2.8	2.4	3.4	4.0	3.7	5.1	5.6	3.4	8.6	2.2	6.9	3.63
Neodesha.....	3.2	3.8	5.6	5.6	23.0	3.6	7.3	3.8	6.0	6.8	15.0	5.10
Olathe.....	3.0	2.7	5.4	4.1	3.0	.....	4.7	2.7	.....	2.4	12.0	4.15
Osage City.....	2.6	3.8	5.0	4.3	8.0	2.7	3.5	2.6	5.3	3.5	7.9	3.83
Osborne.....	2.3	3.3	2.3	4.4	2.3	3.6	4.3	4.2	7.1	2.9	6.3	3.50
Oswego.....	3.0	3.4	3.2	7.5	33.0	16.0	9.3	9.2	.....	.....	10.3	6.13
Pittsburg.....	3.4	2.7	3.6	5.7	.....	3.0	6.0	2.7	4.8	5.0	.....	4.23
Pratt.....	3.2	2.7	2.9	6.1	10.0	5.5	5.5	4.2	.....	4.1	8.8	4.43
Rosedale.....	4.6	4.1	4.8	7.2	6.6	8.2	5.4	5.3	7.5	10.2	8.4	5.80
Sabeth.....	2.3	2.7	2.1	2.1	2.8	3.4	3.8	5.6	8.3	3.1	4.9	3.06
Salina.....	5.0	4.7	4.8	3.6	4.6	4.2	5.3	3.3	6.1	5.6	4.1	4.60
Sterling.....	3.3	2.9	3.9	3.4	2.7	4.2	5.9	4.3	5.5	3.6	9.2	4.08
Topeka.....	3.5	2.5	3.3	3.8	2.9	3.1	4.1	3.6	4.5	4.3	5.2	3.71
Wichita.....	3.4	2.6	2.8	2.9	.....	3.6	3.8	3.6	4.9	3.5	3.8	3.46
Winfield.....	2.4	2.4	2.1	2.3	2.3	2.8	3.1	2.8	4.0	3.8	6.4	2.72
Yates Center.....	3.8	3.4	3.3	2.6	1.9	5.2	6.0	3.4	3.3	.....	2.6	3.38

TABLE XXII. The cost per student recitation in cents.—Third-class cities.

City.	English	Mathematics	History	Science	Agriculture	Modern languages	Latin	Household arts	Manual training	Commercial subjects	Normal training	Average
Alden	6.06	9.43	7.19	11.00	7.87	7.93	8.54				19.20	8.31
Alma	3.87	4.60	6.71	4.92	6.25	3.90	12.50	3.90			8.54	5.39
Altamont	2.88	2.22	3.33	5.61	7.57	11.50			8.92	2.73		5.03
Alta Vista	3.47	2.97	6.25	4.40	7.35	6.13	7.81			2.77		5.03
Alton	4.11	9.25	9.00	2.99		8.26	5.95			2.68	12.90	5.24
Altoona	2.36	3.59	4.73	7.51			6.66	5.52	6.80	5.64	16.60	5.26
Andover	7.69	8.47	14.00	12.50			8.19					9.86
Attica	3.38	5.58	3.53	6.13		4.90	4.78				14.80	4.87
Atlanta	10.00	10.00	10.70	9.34			7.93					9.65
Augusta	3.84	5.55	5.71	6.49	5.20	7.81	5.37	8.92	4.8	6.17	11.80	5.81
Baldwin	2.45	3.58	2.89	3.73	2.89		3.55	3.63			9.43	3.00
Barnard	3.63	3.12	2.50	6.21		6.25	4.90					3.96
Basehor	7.19	8.84	7.69	8.84	3.39	13.1	5.43			8.40		6.82
Beattie	3.17	2.95	3.67	7.19	6.49		4.14				8.69	4.48
Belpre	6.25	5.78	8.47	8.92	4.71	14.7	10.70					8.00
Beverly	2.77	5.78	2.93	5.74			8.13				4.73	4.00
Blue Mound	2.53	3.20	2.42	9.00			6.21					4.00
Blue Rapids	2.35	2.87	5.55	4.11	7.51	8.92	4.76	8.00		4.31	13.40	4.51
Bonner Springs	2.53	3.44	8.33	5.95		6.06	2.89	5.20				4.13
Bronson	3.30	3.02	5.52	4.83			3.42				7.00	4.12
Brookville	5.71	9.43			2.99		2.00		3.17	30.80		7.40
Bucklin	2.85	4.08	5.46	7.35	8.92	3.57	8.06	4.16		8.26	8.33	5.29
Buffalo	5.78	4.71	3.71	4.95		5.07	10.00					4.98
Bunker Hill	5.31	5.12	2.13	3.01			8.92		10.90	8.40	19.50	7.76
Burden	4.01	6.53	5.68	9.70		5.07	11.40			15.40	10.50	5.83
Carbondale	2.16	2.53	4.36	2.61			4.36	5.07			5.71	3.46
Centralia	3.38	6.49	5.98	5.61	10.90	6.06	3.11					4.39
Chapman	3.75	3.30	6.09	3.92	10.20	4.25	16.50	3.77	6.45	8.06	7.24	5.18
Chase	6.99	7.09	5.31	6.94	8.33		10.00	8.33		30.40		7.00
Circleville	2.55	4.32	3.81	6.49			4.78					4.18
Clearwater	2.87	4.85	7.57	5.10	7.93		5.81				8.13	4.92
Clyde	3.59	3.59	3.24	5.78			11.10			11.10	4.80	5.01
Colony	4.36	2.98	4.85	11.70	9.17		3.37	4.85			18.50	5.46
Conway Springs	4.48	3.01	3.34	6.41		2.04	11.60					4.08
Courtland	5.55	5.64	9.34	7.93		9.90	5.88					5.00
Cunningham	4.01	4.09	4.90	10.70		5.34	9.70			7.19		5.85
Delphos	3.49	4.54	4.54	5.23	5.88	3.84	3.12	7.14			8.62	5.00
Dexter	5.00	3.44	10.70	5.26		4.67	4.01					5.18
Dighton	3.89	5.20	4.73	3.95	3.20		8.00				7.75	4.91
Effingham	3.92	2.91	2.88	3.44	4.38	5.88	4.95	3.75	4.65	2.47	5.61	3.00
Ellis	5.00	6.80	8.13	13.50	4.71	10.80		6.75	9.52	16.60	10.20	7.51
Elwood	11.40	20.70	11.50	26.00			20.00				52.00	17.60
Ellsworth	4.08	2.61	4.48	6.09	2.51	6.09	4.56	3.21	5.18		9.43	4.27
Enterprise	4.25	8.84	6.25	4.76		8.13	11.00				5.10	6.61
Eskridge	3.73	4.90	3.89	3.86	9.25	7.14	4.65	4.67			3.92	4.18
Fairview	5.68	6.89	6.25	6.02	10.00	5.20	4.95	6.94			12.50	6.49
Florence	3.63	2.63	8.84	6.49	6.49		4.60			2.83		3.96
Formoso	3.67	5.95	5.23	6.80	3.27		7.81				10.30	5.28
Fowler	4.85	3.93	2.77	8.33		4.40	3.08			3.02		4.05
Frankfort	2.68	2.80	5.15	3.09	3.89		3.31	1.85		2.43	9.61	3.21
Garden Plain	7.29	12.30	7.51	11.50			8.92				13.20	9.36
Gardner	3.03	3.48	3.78	3.98		3.77	5.78			3.77		3.74
Glasco	4.14	3.32	3.17	4.48			3.49					3.69
Glen Elder	5.68	4.80	10.80	6.06		4.20	8.92		5.12		22.90	6.28
Goddard	9.90	10.60	8.62	7.69			17.80				8.62	9.66
Greensburg	4.01	4.14	5.58	8.13	4.69	5.71	4.58	6.41	10.50		10.70	5.43
Hamilton	3.07	4.16	4.85	8.47		4.80	5.37					4.85
Hanover	6.71	4.14	9.25	9.25	7.93	7.81				18.60	27.70	8.71
Hartford	3.08	2.73	4.87	3.13	3.08	3.77	4.18	9.80			6.80	4.00
Havensville	1.80	4.16	3.02	4.11			4.62					3.39
Hill City	2.74	2.67	4.16	6.36	2.25	3.20	11.00	5.29	5.84	4.23	4.76	3.84
Howard	2.68	3.95	3.52	2.40	6.36		1.95	4.46	8.84	19.20	9.61	3.88
Hugoton	5.05	3.93	3.46	15.00			4.92					5.76
Irving	5.95	9.17		7.57			5.68			5.20	4.16	6.97
Jamestown	5.98	6.06	3.49	4.08		4.67	4.85			7.24		4.99
Kensington	5.26	5.26	6.17	4.36	3.73		2.32					4.58
Kipp	12.40	10.00	9.00	5.00		11.10	20.70				11.80	10.40
Kirwin	3.33	3.86	3.98	9.09			3.75					3.93

TABLE XXII—CONTINUED.

City.	English.	Mathematics.	History.	Science.	Agriculture.	Modern languages.	Latin.	Household arts.	Manual training.	Commercial subjects.	Normal training.	Average.
Lansing.	4.38	4.87	5.00	5.55		5.74	5.40	4.31				5.00
Lecompton.	5.02	6.62	5.81	6.49	5.37		4.27			13.30		5.90
Leon.	3.03	3.93	4.58	6.66	7.04		6.25	13.80			8.00	5.64
Leoti.	4.62	6.62	5.20	9.09			7.81			19.40		6.85
Lewis.	6.99	10.20	7.09	7.75		40.00	13.10				12.00	9.24
Liberal.	3.86	3.57	4.11	3.90	3.62		5.31	3.83		5.81	9.34	4.06
Little River.	3.61	4.80	3.46	3.55	3.62		5.64			3.32		4.00
Lovewell.	3.67	15.80	3.63	5.02	6.13			5.10	6.17	3.70		4.93
Lyndon.	2.24	3.20	2.72	4.76	8.84	5.61	3.26			7.69	10.50	4.18
Maize.	5.34	6.36	4.42	7.40	9.25	4.73	1.66	6.25			9.43	6.66
Mankato.	3.02	3.26	1.91	2.63	5.61	4.76		5.00			4.44	3.00
Maple Hill.	5.78	11.30	9.34	7.35		3.46	7.40	5.20		11.30		7.00
McLouth.	5.78	5.52	8.06	4.23		5.29	4.50					5.45
Medicine Lodge.	3.46	3.12	3.63	9.52	4.76	8.19	4.46	6.25		7.81	6.36	5.00
Meriden.	3.40	3.70	4.40	6.30		4.80	6.10					4.00
Moline.	4.54	2.42	8.40	5.74	8.77		4.67	4.65		3.71	11.90	4.00
Mound City.	2.17	4.08	4.27	2.57	2.25		1.59	3.37			12.40	3.00
Mound Valley.	3.49	5.23	6.57	5.68			4.29				7.46	5.00
Mt. Hope.	5.00	4.46	5.61	7.21	7.69	4.80	3.10				8.00	5.45
Mulvane.	3.27	3.03	6.62	4.62	3.70		3.92				14.20	4.00
Muscotah.	4.25	5.43	13.20	17.90			5.23					5.00
Naoma.	4.38	6.62	4.97	10.50		11.00	4.16	6.25				5.76
Neosho Falls.	3.83	4.09	9.25	9.00	28.30	14.5	7.29	6.45	10.00	8.33	11.00	7.00
New Ullyses.	8.13	8.77	9.73	11.90			6.99				18.40	9.00
Norwich.	4.60	6.41	4.48	11.00		5.29	7.19			10.00		6.00
Oneida.	5.88	9.80	7.81	8.40		7.14	12.50			15.00		8.00
Oskaloosa.	4.30	4.20	2.80	3.20	4.90	17.00	4.40	7.20			6.40	4.00
Oxford.	4.21	10.80	5.31	14.10		8.69	4.80					6.00
Palco.	5.64	5.71	6.66	11.50			5.31				4.42	6.00
Plainville.	3.96	3.25	4.40	3.73	9.25		4.62	5.15			6.80	4.00
Pleasanton.	3.63	6.45	4.09	3.12	2.68	5.98	4.29	3.96	4.14		6.66	4.00
Peabody.	3.92	3.07	3.66	5.68	6.84	5.84	3.70	4.31	8.00	5.55	11.50	4.80
Perry.	3.19	2.88	5.49	7.75	12.90	6.80	7.69	5.55				5.00
Potwin.	4.34	10.10	6.09	6.25		11.50	12.50				10.00	7.00
Portis.	4.87	5.71	3.75	17.10	5.34		4.71			7.14		5.00
Protection.	5.12	9.43	4.44	4.25		17.50	7.14			20.00	14.00	6.00
Quincy.	5.00	8.19	4.58	5.61	4.31	4.83	6.13					5.00
Ramona.	4.34	5.07	2.63	12.50		13.00	7.14			6.66	20.20	6.00
Randall.	4.03	6.36	5.23	4.65			8.19	7.75		6.75	5.84	5.00
Ransom.	8.84	4.38	10.70	7.63	4.87		6.89				8.84	7.00
Reading.	3.75	3.69	4.65	5.74			4.42				7.14	4.00
Republic.	3.05	3.05	6.45	4.52			3.57			7.40	19.30	4.00
Rock Creek.	8.92	14.20	7.69	14.20			10.60					10.70
Rush Center.	9.52	11.60	17.10		25.10		15.50		14.20			14.00
St. John.	3.95	5.68	5.81	7.14	4.44	11.40	15.00	4.04	8.33	9.43	20.00	7.62
St. Marys.	9.90	10.00	9.52	9.70	11.50		9.52			11.40		10.10
Savonburg.	7.51	15.10	8.26	8.00		25.10	9.34				18.60	10.00
Sawyer.	6.41	4.90	4.90	7.40	3.71		12.70				19.50	6.00
Scandia.	6.94	9.25	5.29	6.53		19.30	6.94					6.00
Scott City.	3.54	2.68	4.03	6.17	5.18	11.00	4.60	4.25	11.40		10.70	5.00
Sedan.	3.23	3.75	3.69	5.18		3.67	3.47			4.60	5.78	4.00
Sharon.	4.67	6.99	5.00	3.75		14.30	17.80			12.30	16.40	7.00
Sharon Springs.	3.33	4.87	12.20	4.29		4.58	11.50			6.02	8.69	5.00
Spivey.	6.41	4.25	6.25	3.52		4.46	4.65				27.60	5.00
Solomon.	4.42	6.36	2.84	3.95		13.40	5.23	5.95		3.84		4.00
Stafford.	3.41	3.77	3.14	3.93	3.58	4.62	4.71	4.60	5.37	5.05	5.81	4.00
Stockton.	2.67	2.43	4.01	4.46	8.06		5.84	2.85	3.57		3.53	3.00
Summerfield.	2.77	4.42	3.12	2.30			2.84					3.00
Sylvan Grove.	7.93	8.47		4.56	6.09		8.26		5.64		3.86	6.00
Sylvia.	6.25	7.04	15.50	3.71						6.45		5.00
Thayer.	2.42	3.11	2.85	5.71		7.51	5.88	6.25			14.50	4.00
Tonganoxie.	2.80	2.50	4.70	2.70	3.30	4.20	4.20	3.20			4.30	3.00
Toronto.	3.78	5.78	7.51	4.11	5.88		4.48	7.51		13.00		5.00
Troy.	2.89	2.46	3.20	5.12	2.84			4.31		6.62	5.55	3.00
Turon.	27.70	10.30	19.00	8.26		3.90					25.90	9.00
Udall.	7.51	5.31	3.33	6.49		11.60	11.60	14.60				7.00
Utica.	9.43	12.20	14.30	7.93			7.81					10.00
Valley Center.	3.93	5.20	4.52	6.28		4.69	7.35	4.16		7.87	11.20	5.67



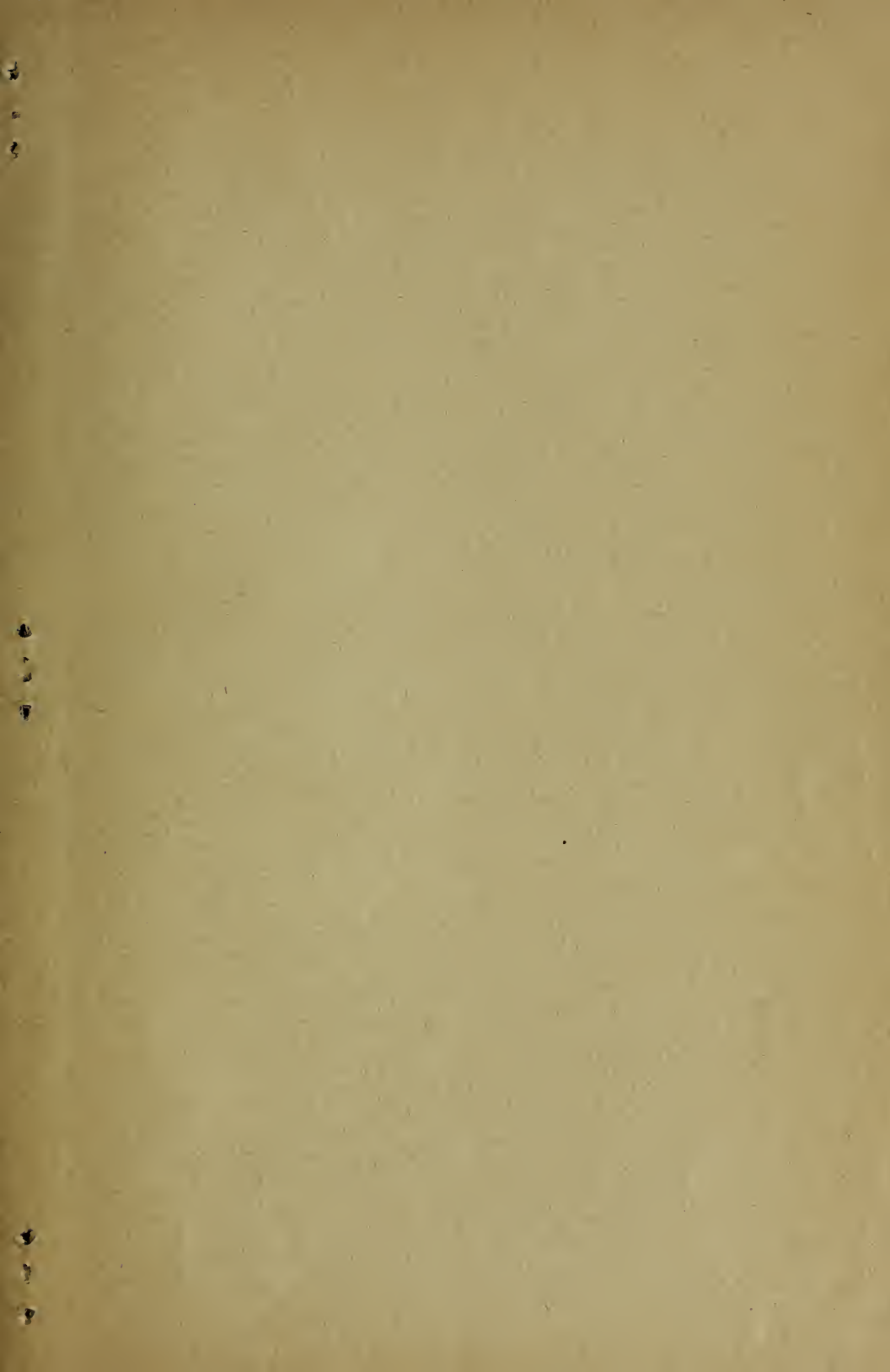
TABLE XXII—CONCLUDED.

City.	English	Mathematics	History	Science	Agriculture	Modern languages	Latin	Household arts	Manual training	Commercial subjects	Normal training	Average
Valley Falls.....	2.30	2.80	3.90	4.20	4.80	15.10	4.80	6.80	.....	.....	12.50	4.00
Vernilion.....	5.78	6.66	4.80	5.58	.....	.....	9.34	.....	.....	.....	.....	6.00
Waldo.....	5.58	11.00	11.00	8.47	.....	.....	.....	3.57	.....	9.43	.....	6.00
Walnut.....	3.75	4.52	5.05	3.12	.....	2.84	13.00	.....	.....	.....	.....	4.00
Wamego.....	2.79	1.99	3.30	5.02	7.75	11.10	5.78	4.03	.....	3.05	16.60	4.00
Washington.....	2.08	4.34	2.71	3.04	.....	3.75	2.68	2.94	.....	3.84	6.99	3.00
Wathena.....	2.63	2.46	3.14	4.85	6.84	3.26	11.00	11.70	.....	.....	9.34	4.00
Wetmore.....	3.66	4.62	4.78	5.58	3.12	.....	6.06	.....	.....	.....	7.81	4.00
Wilson.....	2.84	5.81	5.10	6.17	4.11	.....	3.92	5.49	.....	.....	15.00	5.00
Winchester.....	3.10	4.30	4.50	4.90	.....	7.40	3.70	.....	.....	.....	.....	4.00
Winona.....	9.25	13.60	.....	17.30	.....	32.10	9.25	.....	.....	.....	11.60	14.00
White City.....	4.08	4.65	7.93	10.10	9.25	.....	2.77	.....	.....	.....	.....	5.00
Woodson.....	4.21	5.84	3.16	5.34	7.24	.....	4.46	.....	.....	.....	4.83	4.00











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